

## COAL HANDLING APPARATUS

A first-class belt conveying plant is made by Messrs. Fraser & Chalmers Engineering Works, who are associated with the Robins Conveying Belt Company. The conveyors are made in sizes up to and over 800 tons per hour in a single belt, and the following illustrations show details of these belt conveyors.

The belt is composed of cotton duck and rubber, and is known as the Robins Patent "Stepped Ply" Belt. The belt is constructed with more

RUBBER COVER IN CENTRE

6 PLY

4 PLY

5 PLY

1.6 PLY

Fig. 14.—Cross Section showing Construction of Robins Patent "Stepped Ply" Belt

plies of duck at the edges than at the centre, as shown in fig. 14. This arrangement has many advantages over the ordinary straight ply belt, in that it increases the life of the belt and increases the flexibility, as it allows of a thicker rubber covering being provided in the centre, where the greatest wear takes place. The sides of the belt are also strengthened, by reason of the additional plies of duck, while the edges of the belt are covered continuously right round with a protective coating of rubber which protects the duck from wear.

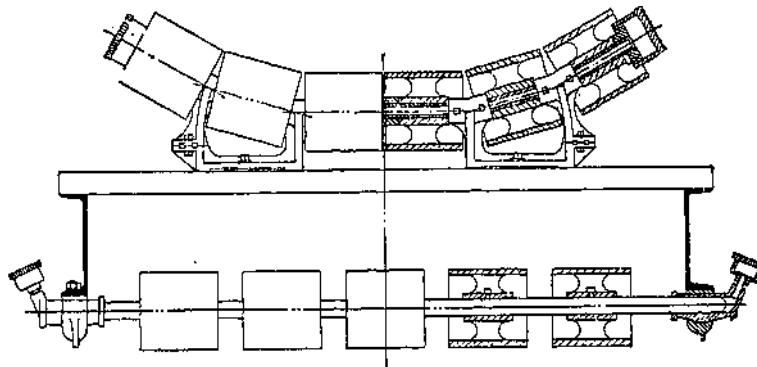


Fig. 15.—Robins Standard Troughing and Return Idlers

The belt is carried over pulleys and idlers, mounted on a framework of timber and steel. The upper idlers are curved to cause the belt to take a trough form to carry the coal, while the lower or return

idlers are straight.

Fig. 15 shows a 5-shaft idler arrangement, which is known as the Robins Patent Troughing and Return Idler. This type of idler is manufactured for belts up to 60 in. wide, and causes less wear on the belt than the more usual 3-shaft type. In certain cases, where the friction and weight of the revolving parts are of importance, ball or roller bearings are fitted to the idlers. Grease lubrication, fed through the idler shafts, is used on both types of idler.